IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	CORUZZI *et al.*	Confirmation No.:	5147
Serial No.:	09/605,521	Art Unit:	1635
Filed:	June 27, 2000	Examiner:	Jane J. Zara
For:	TRANSGENIC PLANTS THAT EXHIBIT ENHANCE NITROGEN ASSIMILATION	Attorney Docket No:	5914-083-999

DECLARATION OF GLORIA M. CORUZZI
UNDER 37 C.F.R. § 1.132

Commissioner for Patents
Washington, D.C. 20231

Sir:

I, GLORIA M. CORUZZI, declare as follows:

1. I am a citizen of the United States, residing at 3 Washington Square Village, #16M, New York, New York 10012.

Considered
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2. I am a professor in the Biology Department of New York University, New York, New York. I have extensive experience in the field of molecular biology and plant biochemistry, as evidenced by my curriculum vitae, attached hereto as Exhibit A.

3. I am a co-inventor of the invention described in the above-identified 09/605,521 application (the "'521 application"). I have read and understand the application and the claims, as amended by the amendment being submitted with this declaration. The present claims relate to transgenic plants having a gene construct comprising a nucleic acid encoding a nitrogen assimilation/metabolism enzyme operably linked to a plant promoter such that the gene is overexpressed and the plant exhibits increased nitrogen content, increased size, or faster growth.

4. I present here evidence demonstrating that, in accord with the teaching of the present invnetion, growth phenotype of transgenic plants is improved by ectopically overexpressing a glutamate 2:oxoglutarate aminotransferase (GOGAT) gene. The evidence comprises the results of a project carried out in my laboratory at New York University, under

my supervision and guidance. The project produced transgenic plants that ectopically overexpress a glutamate 2:oxoglutarate aminotransferase (GOGAT) gene, and that have an enhanced growth phenotype. The transgenic plants were produced using a procedure essentially as that described in the '521 Application. For example, Section 5.2, pages 23-36, teaches methods for making nucleic acid constructs encoding aspartate aminotransferase, glutamate 2-oxoglutarate aminotransferase, glutamate dehydrogenase, or asparaginase and transformation of such constructs into plants or plant cells. Furthermore, suitable promoters for achieving ectopic overexpression are disclosed at page 24, line 34 through page 26, line 7. Methods for identifying improved transgenic plants are disclosed at page 11, line 23 through page 12, line 2 and in Examples 6 and 7.

5. *Arabidopsis thaliana* was transformed with a cauliflower mosaic virus 35S promoter/Arabidopsis ferredoxin-dependent GOGAT (Fd-GOGAT) expression construct. Northern blot analysis showed the transformants comprise two classes: one overexpressing Fd-GOGAT mRNA, and one underexpressing Fd-GOGAT mRNA. A seedling root growth assay showed two "overexpressing" plants, GLU1-104 and GLU1-105, have a faster growth rate than control plants under several different nitrogen conditions, including nitrogen limiting and nitrogen non-limiting conditions. The Fd-GOGAT overexpressing plants also have larger leaves and longer stems, and appear greener than most of the other transformants when compared under normal growth conditions. These results show that ectopically overexpressing a GOGAT gene enhances plant growth phenotype. The details of this project and its results are described in a manuscript, a copy of which is attached hereto as Exhibit B.

I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, and any patent issuing thereon.

Date: 4/1/03

GLORIA M. CORUZZI